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CLAIMS

[Claim(s)]
[Claim 1]A computer system comprising provided with a slot equipped with a device board:
A device detection means to detect each device board with which a slot in a computer body was equipped.
A device selecting means which chooses a device board made usable out of two or more device boards detected by said device detection means.

[Claim 2]A computer system provided with a power-saving means to intercept current supply to a device board which was not chosen by device selecting means in the computer system according to claim 1.
[Claim 3]The computer system comprising according to claim 1 or 2:
A device group registration means to register device group information which carried out the grouping of two or more device boards.
A device group memory measure which memorizes two or more registered device group information.
A device selecting means which chooses a device group who makes it usable by displaying two or more device group information memorized by said device group memory measure, and making device group information in it direct.

[Claim 4]Device information added or deleted from a device identification signal remembered to be the device identification signal detected by a device detection means in the computer system according to claim 3 is searched for, A computer system, wherein it had composition on which said device information is also displayed in addition to device group information and selection of an added device also makes a device selecting means possible composition.
[Claim 5]A computer system comprising:

A device memory measure which matches and memorizes a device name and a device identification signal in the computer system according to any one of claims 1 to 4.
A device name directing means to which a device name which is matched and is registered into said device identification signal when a device identification signal detected by a device detection means is not memorized by said device memory measure is made to direct.
A device registration means to match a device name directed by said detected device identification signal and said device name directing means, and to register with said device memory measure.

[Claim 6]A computer system having a duplication reporting means which notifies that when the device identification signals detected by a device detection means overlap in the computer system according to any one of claims 1 to 5.

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DETAILED DESCRIPTION

[Detailed Description of the Invention]
[0001]
[Field of the Invention]This invention relates to computer systems, such as a personal computer which can be equipped with the slot which connects a device board and to which option devices can be added, It is related with the computer system which can use a computer system by the device configuration of a user's request especially.
[0002]
[Description of the Prior Art]The hardware of computer systems, such as a personal computer, it is shown in drawing 13 -- as -- CPU21, ROM22, RAM23, and the various device boards 24 (24a.) 24b, ..., etc. are connected to the system bath 29, and the input output section 26 which comprises a keyboard, a display, etc. is connected to CPU21, In many devices, it has the composition that the device body 25 was connected to each device board (device interface part) 24. As a device, it has hard disk drive A, floppy disk drive unit B, the printer C, the compact disk (CD) device D, data communication control device E, etc. so that it may illustrate. As mentioned above, although it is possible to equip a computer system with various devices, devices to have by a user differ. Therefore, in a personal computer. The slot for expansion (connector for boards) is established in a computer body, The slot is wired in the system bath, the slot is equipped with a device board if needed for a user, and extension of the required function is enabled by connecting a device body to the device board further in many devices.
[0003]However, in the aforementioned conventional technology, even if a slot has an opening, When the interrupt number etc. of the device board with which it is going to equip, and the device board with which it is already equipped were the same and it is equipped with the device board with which it equips later, cause a hang-up etc. and The sake, There was a problem that both these two device boards could not be equipped and used. By the computer system shown in JP,7-271711,A, to it. Have a slot for expansion as mentioned above, and

enable wearing of an option-devices board (an option card, an extension device board), and. In addition to the above art, a means by which the I/O Address of the built-in device board of standard equipment and the added option-devices board and duplication of an interrupt number (interrupt level) are avoidable is provided. That is, in the computer system shown in JP,7-271711,A. Output the I/O Address beforehand assigned to the power up after equipping a slot with an option-devices board, and said built-in device board, and the built-in device board is accessed, If the access is not performed normally, it judges that the I/O Address overlaps and the I/O Address of a built-in device board is changed automatically, and the interrupt number (interrupt level) currently assigned to the built-in device board is also changed further.

[0004]

[Problem(s) to be Solved by the Invention]However, in the aforementioned conventional technology shown in JP,7-271711,A, Although duplication of the interrupt number between two or more extension device boards, etc. cannot be avoided and no users use all extension devices when two or more users use one computer, There was futility of supplying a power supply to all the extension device boards. Even if it extends many device boards so that the issue which this invention tends to solve may solve the problem of such conventional technology and many users can respond to various functions, It is in providing the computer system which does not produce the futility that do not produce a hang-up etc. by duplication of an interrupt number, etc., and a power supply is supplied also to the device board which is not used, either.

[0005]

[Means for Solving the Problem]In order to solve the aforementioned technical problem, in the invention according to claim 1, a computer system provided with a slot equipped with a device board is provided with the following.

A device detection means to detect each device board with which a slot in a computer body was equipped.

A device selecting means which chooses a device board made usable out of two or more device boards detected by said device detection means.

In the invention according to claim 2, it had a power-saving means to intercept current supply to a device board which was not chosen by device selecting means, in the invention according to claim 1. In the invention according to claim 3, the invention according to claim 1 or 2 is provided with the following.

A device group registration means to register device group information which carried out the grouping of two or more device boards.

A device group memory measure which memorizes two or more registered device group information.

A device selecting means which chooses a device group who makes it usable by displaying

two or more device group information memorized by said device group memory measure, and making device group information in it direct.

[0006]Device information added or deleted from a device identification signal remembered to be the device identification signal detected by a device detection means in the invention according to claim 3 in the invention according to claim 4 is searched for, It had composition on which said device information is also displayed in addition to device group information, and selection of an added device also made a device selecting means possible composition. In the invention according to any one of claims 1 to 4 by the invention according to claim 5, When a device identification signal detected by device memory measure which matches and memorizes a device name and a device identification signal, and a device detection means is not memorized by said device memory measure, It had a device registration means to have matched a device name directed by device name directing means to which a device name which is matched and is registered into said device identification signal is made to direct, and said detected device identification signal and said device name directing means, and to register with said device memory measure. In the invention according to claim 6, in the invention according to any one of claims 1 to 5, when the device identification signals detected by a device detection means overlapped, it had a duplication reporting means which notifies that.

[0007]

[Function]Since it constituted as mentioned above, in the invention according to claim 1, the device board which detects each device board with which the slot in a computer body was equipped, and is made usable out of two or more detected device boards can be chosen. In the invention according to claim 2, the current supply to the device board which was not chosen is intercepted in the invention according to claim 1. In the invention according to claim 1 or 2 by the invention according to claim 3, The device group information which carried out the grouping of two or more device boards is registered, Memorize two or more registered device group information, display two or more memorized device group information, the device group information in it is made to direct, and the device group who makes it usable can be chosen. In the invention according to claim 4, in the invention according to claim 3, the device information added or deleted from the device identification signal remembered to be the detected device identification signal is searched for, and, in addition to device group information, said device information and the device displayed and added can be chosen. In the invention according to any one of claims 1 to 4 by the invention according to claim 5, If the device name which is matched and is registered into said device identification signal is directed when the detected device identification signal is not memorized by the device memory measure, said device identification signal and device name which were matched will be

registered into said device memory measure. In the invention according to claim 6, duplication of the detected device identification signals will notify that in the invention according to any one of claims 1 to 5.

[0008]

[Embodiment of the Invention]Hereafter, a drawing explains an embodiment of the invention in detail. Drawing 1 is a configuration block figure of a computer system showing a 1st embodiment of this invention. So that it may illustrate the computer system of this embodiment, Have CPU which operates according to the memory which built in the program, and its program, and the whole computer system to the system control part 1 and the appearance which are controlled and managed by CPU etc. the various devices 3 (3a.) which comprise the device control section 2 which operates, and controls and manages various devices, a device board or a device board, and the device body connected to it It has the input output section 5, the system bath 9, etc. which comprise the slot (connector) 4 (4b, 4c, 4d, ...) and keyboard with which it is equipped with 3b, 3c, 3d, ..., said device board, a display, etc.In the above, the device control section 2 is also a device detection means to detect the device connected, and the system control part 1 and the input output section 5 constitute the device selecting means which chooses the device 3 made usable. The device 3a is a hard disk drive, and it is connected to the system bath 9 in this embodiment, without passing the slot 4 for extension. That is, it has the device 3a in the computer body as standard equipment. The system control part 1 also executes various application programs. As shown in drawing 2, the device board 11 which constitutes each device 3 is provided with the heights 12 which have the terminal row print-pattern-ized by the side part, the heights 12 fit into the slot 4, and each terminal of said terminal row is connected to the system bath 9 by it. The system control part 1 and the device control section 2 can share CPU and a memory.

[0009]The operation flow of a 1st embodiment of this invention is shown in drawing 3. Hereafter, operation of this embodiment is explained according to drawing 3 etc. It shall be equipped with the planned device board 11 in advance of this operation flow (connection). First, a user supplies a power supply to this computer system (S1). If it does so, the system control part 1 will require detection of the device board 11 connected at this time from the device control section 2, after checking the fundamental portion in a computer system. Thereby, the device control section 2 detects each device board 11 connected (S2). For example, have two or more DIP switches in a device board, and the device identification signal of the device board 11, etc. are beforehand set up by making those switches into one or an OFF state, The device control section 2 takes out an identification signal demand command to each device board 11 in which the power supply is already switched on, and said device identification signal with which each device board is set up according to it is returned. The device table which matched with the hard disk drive (for example, device 3a) of standard

equipment beforehand at various device names, and registered the device identification signal is memorized so that it may mention later, When a device identification signal is received from each device board 11, as the device control section 2 acquires said device name by which correspondence price ****** is carried out to this device identification signal and shows it to drawing 4, The device list which comprised a device name and a device identification signal (ID) and which shows all the devices with which it is equipped (connection) is created, and it is passed to the system control part 1. If it does so, the system control part 1 will pass the device list to the input output section 5, and, thereby, the input output section 5 will display the device list on a display (S3).

[0010]Then, a device to use while a user looks at the device name under device list displayed using the mouse etc. which constitute the input output section 5, etc. is chosen (S4). If it does so, for example, the device with which the input output section 5 was chosen is shown, two or more device identification signals will be acquired, and the device identification signal will be passed to the system control part 1. If a device identification signal is received, the system control part 1 passes the device identification signal to the device control section 2, and directs to initialize only the device of the device identification signal in the usable state. Thereby, the device control section 2 initializes only said device in the usable state, makes only the device supply a power supply, and makes only those devices a usable state (S5). For example, the device control section 2 takes out the power off command included the device identification signal of the device board 11 to each device board 11 which was not chosen among the device boards 11 which were shown in drawing 4, and with which it is equipped. As shown in drawing 5, each device board 11 is provided with CPU13, the port 14, and the solid state switch 15 which constitute the power-saving means (power-supply-cutoff means) with the device control section 2.

CPU13 judges whether if a power off command is received, the device identification signal included in the command is its device identification number, and if it is its device number, By outputting "0" as opposed to the port 14, the solid state switch 15 is made into an OFF state, and the power source line 16 is made into a cutting condition.

As mentioned above, since only the desired device board 11 will be in a usable state according to this embodiment, For example, when two or more users share this computer system, When a one user uses this computer system in the state where it equipped with the device board 11 which one of users uses beforehand, Since an interrupt does not occur from the device board 11 which is not usable even if the situation where an interrupt number is the same occurs between the device boards 11 which have not been made usable with the device board 11 made usable, a hang-up which had been produced is not produced conventionally. Since a power supply is not supplied to the device board 11 which is not used, power consumption is reduced only the part.

[0011]In addition to the composition of a 1st embodiment, the system control part 1 and the input output section 5 constitute a device group registration means to register the device group information which carried out the grouping of two or more device boards 11 from a 2nd embodiment of this invention, The device group memory measure which memorizes two or more registered device group information is established, By displaying two or more device group information memorized by said device group memory measure, and making the device group information in it direct, a device selecting means is constituted so that the device group who makes it usable may be chosen. The hardware constitutions of a 2nd embodiment are shown in drawing 6. It is the composition of having added the device group storage parts store (device group memory measure) 6 to the composition of a 1st embodiment shown in drawing 1 so that it may illustrate. The partial area of RAM is assigned to this device group storage parts store 6, for example, and those contents are loaded to a power up from a hard disk drive (for example, device 3a). With such composition, two or more devices which can be set to a power up can be easily directed in the computer system of this embodiment. Hereafter, according to the operation flow shown in drawing 7, the operation at the time of device group registration is explained first. It shall be equipped with the planned device board 11 in advance of this operation flow (connection). First, a user directs a device group's registration by the input output section 5 (S11). If it does so, the input output section 5 will give these directions to the system control part 1, and, thereby, the system control part 1 will require detection of the device board 11 connected from the device control section 2. Thus, the device control section 2 detects each device board 11 connected (S12). For example, the device identification signal of each device board 11, etc. are beforehand set up by making into one or an OFF state two or more DIP switches which it had in the device board, The device control section 2 takes out an identification signal demand command to each device board 11, and said device identification signal with which each device board is set up according to it is returned.

[0012]If it matches with the hard disk drive (for example, device 3a) of standard equipment beforehand at various device names, the device identification signal is registered (memory) and the device control section 2 receives a device identification signal from each device board 11, this device identification signal -- correspondence -- the price -- as said device name by which **** registration is carried out is acquired and it is shown in drawing 4, the device list which comprised a device name and a device identification signal (ID) and which shows all the devices with which it is equipped is created, and it is passed to the system control part 1. If it does so, the system control part 1 will pass the device list to the input output section 5, and, thereby, the input output section 5 will display the device list on a display (S13). Then, two or more devices (I would like to use it) to register while a user looks at the device name under device list displayed using the mouse etc. which constitute the input output section 5, etc. are chosen, and the name attached to the device group who comprises two or more of the devices

is directed (S14). If it does so, for example, the device with which the input output section 5 was chosen is shown, two or more device identification signals and device group names will be acquired, and they will be passed to the system control part 1. The user can attach said device group name freely within the predetermined number of characters. The system control part 1 will match and register the device group name concerned received on the device group (profile) table as shown in drawing 8, and the device identification signal which constitutes it, if a device identification signal etc. are received, The updated device group table is memorized to the device group storage parts store 6 (S15). It matches with a device identification signal and the device name is also registered into said device group table.

[0013]On the other hand, when using the device group registered, a user supplies a power supply to this computer system first (S21). If it does so, the system control part 1 will require detection of the device board 11 connected at this time from the device control section 2, after checking the fundamental portion in a computer system. Thereby, the device control section 2 detects each device board 11 connected (S22). For example, the device identification signal of each device board 11, etc. are beforehand set up by making into one or an OFF state two or more DIP switches which it had in the device board, The device control section 2 takes out an identification signal demand command to each device board 11, and each device board returns said device identification signal according to it. Match with the device table in the hard disk drive (for example, device 3a) of standard equipment beforehand at various device names, and the device identification signal is registered so that it may mention later (memory), When a device identification signal is received from each device board 11, as the device control section 2 acquires said device name by which correspondence price ****** is carried out to this device identification signal and shows it to drawing 4, The device list which comprised a device name and a device identification signal (ID) and which shows all the devices connected is created, and it is passed to the system control part 1. It is judged whether the system control part 1 compares the device list before the prescribed period which was acquired the passed device list and last time and was memorized to the device group storage parts store 6, and there is any change in the device connected (S23). And when there is change, the newest device group table and contents of change which were memorized to Yes) and the device group storage parts store 6 by (S23 are passed to the input output section 5, and the input output section 5 displays them like drawing 10 (S24).

[0014]Then, the device group who wants to use it while a user looks at the device group table displayed using the mouse etc. which constitute the input output section 5 is chosen (S25). There is a device addition (new device), and a device addition is directed if you would like to add to the group who chose the device addition (selection). If it does so, the input output section 5 will acquire selection/directions result, and will pass it to the system control part 1. The system control part 1 will judge the existence of a new device to add, and the existence of

a deletion device, if selection/directions result is received (S26, S27), When there is a new device to add, the contents of the device group as whom the device group table was chosen according to Yes) and it by (S26 are updated (S28). When there is a deletion device, said deletion device is deleted from all the device groups of Yes) and a device group table by (S27. And the device identification signal belonging to the device group as whom the updated device group table was chosen is passed to the device control section 2, and it directs to initialize only the device of the device identification signal in the usable state. Thereby, the device control section 2 initializes only said device in the usable state like a 1st embodiment, makes only the device supply a power supply, and makes only those devices a usable state (S28).

[0015]When there is also no new device to add to it (it is No at S26) and there is also no deletion device, by (S27 No), The device identification signal belonging to the selected device group is passed to the device control section 2, without updating a device group table, It points so that only the device of the device identification signal may be initialized in the usable state, and thereby, the device control section 2 initializes only said device in the usable state, makes only the device supply a power supply, and makes only those devices a usable state (S28). When judged with there being no change in an equipped device in Step S23, by (S23 No), Display only a device group table (S29) and a device group is made to choose (S30), Pass the device identification signal belonging to the selected device group to the device control section 2, point so that only the device of the device identification signal may be initialized in the usable state, and by that cause, The device control section 2 initializes only said device in the usable state, makes only the device supply a power supply, and makes only those devices a usable state (S28). As mentioned above, since only the desired device board 11 will be in a usable state according to this embodiment, For example, when two or more users share this computer system, When a one user uses this computer system in the state where it equipped with the device board 11 which one of users uses beforehand, Since an interrupt does not occur from the device board 11 which is not usable even if the situation where an interrupt number is the same occurs between the device boards 11 which have not been made usable with the device board 11 made usable, a hang-up which had been produced is not produced conventionally. Since a power supply is not supplied to the device board 11 which is not used, power consumption is reduced only the part. Since a device to use by choosing a device group can be chosen, operation becomes easy.

[0016]According to a 3rd embodiment of this invention, in said each embodiment, a right device identification signal can be registered by an easy method. Hereafter, operation of this embodiment is explained according to the operation flow etc. of a 3rd embodiment shown in drawing 11. Hardware constitutions are the same as drawing 1 or drawing 6. However, use a hard disk drive (for example, device 3a) as a device memory measure which matches and memorizes the device name and the device identification signal, and. The device name

directing means to which the device name which is matched and is registered into a device identification signal is made to direct is constituted from the system control part 1 and the input output section 5, It is made to operate also as a device registration means to match a device identification signal and a device name and to register the system control part 1 into said device memory measure. According to this embodiment, a user supplies a power supply to this computer system first (S31). When it does so, require the system control part 1 from the device control section 2, and detection of the device board 11 connected at this time by this, The device control section 2 detects the device identification signal of each device board 11 connected like a 1st embodiment (S32). Then, the system control part 1 acquires the device identification signal detected from the device control section 2, A device table similar to the table shown in drawing 4 is read from the hard disk drive etc. which are device memory measures, It is judged whether a new device board (device identification signal) is added by comparing the detected device identification signal with the identification signal in a device table (S33). And if judged with being added (it is Yes at S33), as shown in drawing 12, the message which requires a new device identification signal and a device name input, and two or more device names for selection will be displayed via the input output section 5 (S34). That is, a desired device name is made to choose out of the device name currently displayed, or a device name is made to input using a keyboard. Thus, if a user inputs a device name (S35), the system control part 1 will acquire the device name inputted via the input output section 5, will match this device name with a new device identification signal, and will register it into a device table (S36). If judged with the new device identification signal not being added in Step S33 to it (it is No at S33), If it judges whether there is any device identification signal duplicate into the detected device identification signal (S37) and there is a duplicate device identification signal (it is Yes at S37), the system control part 1 which is also a duplication reporting means will display the warning message which shows that (S38). As mentioned above, when a new device board is registered according to this embodiment, Since it is not necessary to input a device identification signal and to also necessarily input a device name, if the device identification signal set up in the device board by register operation becoming easy overlaps with the already registered device board, Since it turns out that it overlaps at the time of the next registration, a quick action is attained.

[0017]

[Effect of the Invention]As explained above, in the invention according to claim 1. Since the device board which detects each device board with which the slot in a computer body was equipped, and makes it usable out of two or more detected device boards can be chosen, Even if it extends many device boards so that many users can respond to various functions, a hang-up etc. are not produced by duplication of an interrupt number, etc. In the invention according to claim 2, in the invention according to claim 1, since the current supply to the

device board which was not chosen is intercepted, the futility that the effect of the invention according to claim 1 is not only obtained, but a power supply is supplied to the device board which is not used is not produced, either. In the invention according to claim 1 or 2 by the invention according to claim 3, The device group information which carried out the grouping of two or more device boards is registered, Memorize two or more registered device group information, display two or more memorized device group information, and the device group information in it is made to direct, and since the device group who makes it usable can be chosen, operation becomes easy.

[0018]The device information added or deleted from the device identification signal remembered to be the detected device identification signal in the invention according to claim 3 in the invention according to claim 4 is searched for, Since said device information and the device displayed and added can be chosen in addition to device group information, where the newest device board mounting state is reflected, the effect of the invention according to claim 3 is realizable. In the invention according to any one of claims 1 to 4 by the invention according to claim 5, Since said device identification signal and device name which were matched will be registered into said device memory measure if the device name which is matched and is registered into said device identification signal is directed when the detected device identification signal is not memorized by the device memory measure, register operation becomes easy. Since that will be notified if the detected device identification signals overlap in the invention according to claim 6 in an invention given in either according to claim 1 to 5, He can notice that device identification signal setting out of the device board was unsuitable immediately after equipping with a device board.

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TECHNICAL FIELD

[Field of the Invention]This invention relates to computer systems, such as a personal computer which can be equipped with the slot which connects a device board and to which option devices can be added, It is related with the computer system which can use a computer system by the device configuration of a user's request especially.

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PRIOR ART

[Description of the Prior Art]The hardware of computer systems, such as a personal computer, it is shown in drawing 13 -- as -- CPU21, ROM22, RAM23, and the various device boards 24 (24a.) 24b, ..., etc. are connected to the system bath 29, and the input output section 26 which comprises a keyboard, a display, etc. is connected to CPU21, In many devices, it has the composition that the device body 25 was connected to each device board (device interface part) 24. As a device, it has hard disk drive A, floppy disk drive unit B, the printer C, the compact disk (CD) device D, data communication control device E, etc. so that it may illustrate. As mentioned above, although it is possible to equip a computer system with various devices, devices to have by a user differ. Therefore, in a personal computer. The slot for expansion (connector for boards) is established in a computer body, The slot is wired in the system bath, the slot is equipped with a device board if needed for a user, and extension of the required function is enabled by connecting a device body to the device board further in many devices. [0003]However, in the aforementioned conventional technology, even if a slot has an opening, When the interrupt number etc. of the device board with which it is going to equip, and the device board with which it is already equipped were the same and it is equipped with the device board with which it equips later, cause a hang-up etc. and The sake, There was a problem that both these two device boards could not be equipped and used. By the computer system shown in JP,7-271711,A, to it. Have a slot for expansion as mentioned above, and enable wearing of an option-devices board (an option card, an extension device board), and. In addition to the above art, a means by which the I/O Address of the built-in device board of standard equipment and the added option-devices board and duplication of an interrupt number (interrupt level) are avoidable is provided. That is, in the computer system shown in JP,7-271711,A. Output the I/O Address beforehand assigned to the power up after equipping a slot with an option-devices board, and said built-in device board, and the built-in device board is accessed, If the access is not performed normally, it judges that the I/O Address overlaps

and the I/O Address of a built-in device board is changed automatically, and the interrupt number (interrupt level) currently assigned to the built-in device board is also changed further.

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EFFECT OF THE INVENTION

[Effect of the Invention]As explained above, in the invention according to claim 1. Since the device board which detects each device board with which the slot in a computer body was equipped, and makes it usable out of two or more detected device boards can be chosen, Even if it extends many device boards so that many users can respond to various functions, a hang-up etc. are not produced by duplication of an interrupt number, etc. In the invention according to claim 2, in the invention according to claim 1, since the current supply to the device board which was not chosen is intercepted, the futility that the effect of the invention according to claim 1 is not only obtained, but a power supply is supplied to the device board which is not used is not produced, either. In the invention according to claim 1 or 2 by the invention according to claim 3, The device group information which carried out the grouping of two or more device boards is registered, Memorize two or more registered device group information, display two or more memorized device group information, and the device group information in it is made to direct, and since the device group who makes it usable can be chosen, operation becomes easy.
[0018]The device information added or deleted from the device identification signal remembered to be the detected device identification signal in the invention according to claim 3 in the invention according to claim 4 is searched for, Since said device information and the device displayed and added can be chosen in addition to device group information, where the newest device board mounting state is reflected, the effect of the invention according to claim 3 is realizable. In the invention according to any one of claims 1 to 4 by the invention according to claim 5, Since said device identification signal and device name which were matched will be registered into said device memory measure if the device name which is matched and is registered into said device identification signal is directed when the detected device identification signal is not memorized by the device memory measure, register operation becomes easy. Since that will be notified if the detected device identification signals overlap in

the invention according to claim 6 in an invention given in either according to claim 1 to 5, He can notice that device identification signal setting out of the device board was unsuitable immediately after equipping with a device board.

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TECHNICAL PROBLEM

[Problem(s) to be Solved by the Invention]However, in the aforementioned conventional technology shown in JP,7-271711,A, Although duplication of the interrupt number between two or more extension device boards, etc. cannot be avoided and no users use all extension devices when two or more users use one computer, There was futility of supplying a power supply to all the extension device boards. Even if it extends many device boards so that the issue which this invention tends to solve may solve the problem of such conventional technology and many users can respond to various functions, It is in providing the computer system which does not produce the futility that do not produce a hang-up etc. by duplication of an interrupt number, etc., and a power supply is supplied also to the device board which is not used, either.

[Translation done.]

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MEANS

[Means for Solving the Problem]In order to solve the aforementioned technical problem, in the invention according to claim 1, a computer system provided with a slot equipped with a device board is provided with the following.
A device detection means to detect each device board with which a slot in a computer body was equipped.
A device selecting means which chooses a device board made usable out of two or more device boards detected by said device detection means.
In the invention according to claim 2, it had a power-saving means to intercept current supply to a device board which was not chosen by device selecting means, in the invention according to claim 1. In the invention according to claim 3, the invention according to claim 1 or 2 is provided with the following.
A device group registration means to register device group information which carried out the grouping of two or more device boards.
A device group memory measure which memorizes two or more registered device group information.
A device selecting means which chooses a device group who makes it usable by displaying two or more device group information memorized by said device group memory measure, and making device group information in it direct.

[0006]Device information added or deleted from a device identification signal remembered to be the device identification signal detected by a device detection means in the invention according to claim 3 in the invention according to claim 4 is searched for, It had composition on which said device information is also displayed in addition to device group information, and selection of an added device also made a device selecting means possible composition. In the invention according to any one of claims 1 to 4 by the invention according to claim 5, When a

device identification signal detected by device memory measure which matches and memorizes a device name and a device identification signal, and a device detection means is not memorized by said device memory measure, It had a device registration means to have matched a device name directed by device name directing means to which a device name which is matched and is registered into said device identification signal is made to direct, and said detected device identification signal and said device name directing means, and to register with said device memory measure. In the invention according to claim 6, in the invention according to any one of claims 1 to 5, when the device identification signals detected by a device detection means overlapped, it had a duplication reporting means which notifies that.

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OPERATION

[Function]Since it constituted as mentioned above, in the invention according to claim 1, the device board which detects each device board with which the slot in a computer body was equipped, and is made usable out of two or more detected device boards can be chosen. In the invention according to claim 2, the current supply to the device board which was not chosen is intercepted in the invention according to claim 1. In the invention according to claim 1 or 2 by the invention according to claim 3, The device group information which carried out the grouping of two or more device boards is registered, Memorize two or more registered device group information, display two or more memorized device group information, the device group information in it is made to direct, and the device group who makes it usable can be chosen. In the invention according to claim 4, in the invention according to claim 3, the device information added or deleted from the device identification signal remembered to be the detected device identification signal is searched for, and, in addition to device group information, said device information and the device displayed and added can be chosen. In the invention according to any one of claims 1 to 4 by the invention according to claim 5, If the device name which is matched and is registered into said device identification signal is directed when the detected device identification signal is not memorized by the device memory measure, said device identification signal and device name which were matched will be registered into said device memory measure. In the invention according to claim 6, duplication of the detected device identification signals will notify that in the invention according to any one of claims 1 to 5.

[0008]

[Embodiment of the Invention]Hereafter, a drawing explains an embodiment of the invention in detail. Drawing 1 is a configuration block figure of a computer system showing a 1st embodiment of this invention. So that it may illustrate the computer system of this embodiment, Have CPU which operates according to the memory which built in the program, and its

program, and the whole computer system to the system control part 1 and the appearance which are controlled and managed by CPU etc. the various devices 3 (3a.) which comprise the device control section 2 which operates, and controls and manages various devices, a device board or a device board, and the device body connected to it It has the input output section 5, the system bath 9, etc. which comprise the slot (connector) 4 (4b, 4c, 4d, ...) and keyboard with which it is equipped with 3b, 3c, 3d, ..., said device board, a display, etc.In the above, the device control section 2 is also a device detection means to detect the device connected, and the system control part 1 and the input output section 5 constitute the device selecting means which chooses the device 3 made usable. The device 3a is a hard disk drive, and it is connected to the system bath 9 in this embodiment, without passing the slot 4 for extension. That is, it has the device 3a in the computer body as standard equipment. The system control part 1 also executes various application programs. As shown in drawing 2, the device board 11 which constitutes each device 3 is provided with the heights 12 which have the terminal row print-pattern-ized by the side part, the heights 12 fit into the slot 4, and each terminal of said terminal row is connected to the system bath 9 by it. The system control part 1 and the device control section 2 can share CPU and a memory.

[0009]The operation flow of a 1st embodiment of this invention is shown in drawing 3. Hereafter, operation of this embodiment is explained according to drawing 3 etc. It shall be equipped with the planned device board 11 in advance of this operation flow (connection). First, a user supplies a power supply to this computer system (S1). If it does so, the system control part 1 will require detection of the device board 11 connected at this time from the device control section 2, after checking the fundamental portion in a computer system. Thereby, the device control section 2 detects each device board 11 connected (S2). For example, have two or more DIP switches in a device board, and the device identification signal of the device board 11, etc. are beforehand set up by making those switches into one or an OFF state, The device control section 2 takes out an identification signal demand command to each device board 11 in which the power supply is already switched on, and said device identification signal with which each device board is set up according to it is returned. The device table which matched with the hard disk drive (for example, device 3a) of standard equipment beforehand at various device names, and registered the device identification signal is memorized so that it may mention later, When a device identification signal is received from each device board 11, as the device control section 2 acquires said device name by which correspondence price ****** is carried out to this device identification signal and shows it to drawing 4, The device list which comprised a device name and a device identification signal (ID) and which shows all the devices with which it is equipped (connection) is created, and it is passed to the system control part 1. If it does so, the system control part 1 will pass the device list to the input output section 5, and, thereby, the input output section 5 will display the device

list on a display (S3).

[0010]Then, a device to use while a user looks at the device name under device list displayed using the mouse etc. which constitute the input output section 5, etc. is chosen (S4). If it does so, for example, the device with which the input output section 5 was chosen is shown, two or more device identification signals will be acquired, and the device identification signal will be passed to the system control part 1. If a device identification signal is received, the system control part 1 passes the device identification signal to the device control section 2, and directs to initialize only the device of the device identification signal in the usable state. Thereby, the device control section 2 initializes only said device in the usable state, makes only the device supply a power supply, and makes only those devices a usable state (S5). For example, the device control section 2 takes out the power off command included the device identification signal of the device board 11 to each device board 11 which was not chosen among the device boards 11 which were shown in drawing 4, and with which it is equipped. As shown in drawing 5, each device board 11 is a power-saving means in the device control section 2.

[Translation done.]

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DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1]It is a configuration block figure of a computer system showing a 1st embodiment of this invention.

[Drawing 2]It is an explanatory view of a computer system important section showing a 1st embodiment of this invention.

[Drawing 3]It is an operation flow figure of a computer system showing a 1st embodiment of this invention.

[Drawing 4]It is a data configuration figure of a computer system important section showing a 1st embodiment of this invention.

[Drawing 5]They are other explanatory views of a computer system important section showing a 1st embodiment of this invention.

[Drawing 6]It is a configuration block figure of a computer system showing a 2nd embodiment of this invention.

[Drawing 7]It is an operation flow figure of a computer system showing a 2nd embodiment of this invention.

[Drawing 8]It is a data configuration figure of a computer system important section showing a 2nd embodiment of this invention.

[Drawing 9]They are other operation flow figures of a computer system showing a 2nd embodiment of this invention.

[Drawing 10]It is a screen figure of a computer system showing a 2nd embodiment of this invention.

[Drawing 11]It is an operation flow figure of a computer system showing a 3rd embodiment of this invention.

[Drawing 12]It is a screen figure of a computer system showing a 3rd embodiment of this invention.

[Drawing 13]It is a configuration block figure of a computer system showing an example of conventional technology.

[Description of Notations]

1: A system control part, 2:device control section, 3:device, 4:slot, 5:input output section, 6:device group storage parts store, 11:device board, 13:CPU, 15:solid state switch, 16 : power source line.

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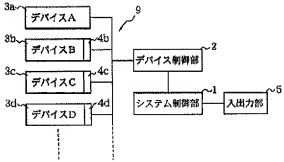
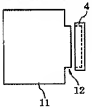
DRAWINGS

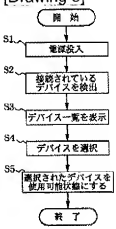
[Drawing 1]



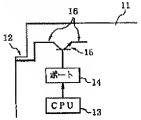
[Drawing 2]



[Drawing 3]



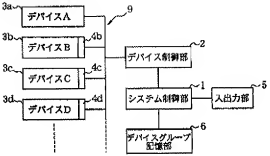
[Drawing 5]



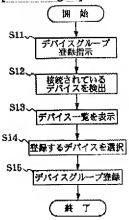
[Drawing 4]

デバイス名	デバイスID
デバイス1	9023
デバイス2	1051
デバイス3	0901
・ ・ ・	・ ・ ・
デバイスN	1070

[Drawing 6]



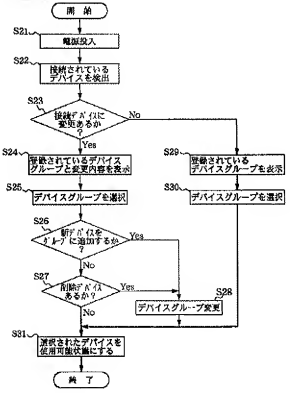
[Drawing 7]



[Drawing 8]

グループ名	使用デバイスＩＤ（デバイス名）			
ＤＧ１	９０２３(D1)	１０５１(D2)	・・・	１０７０(DN)
ＤＧ２	０８０１(D3)			
ＤＧ３	１０５１(D2)	０１７７(D5)		
		・ ・ ・		
ＤＧＭ	４０８３(D4)	０３２３(D6)	・・・	９０２３(D1)

[Drawing 9]

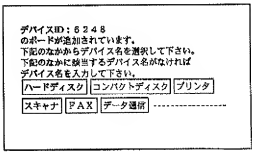


[Drawing 10]

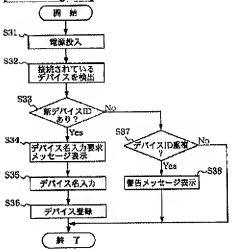
グループ名	使用デバイスＩＤ（デバイス名）			
ＤＧ１	９０２３(D1)	１０５１(D2)	・・・・	１０７０(DN)
ＤＧ２	０８０１(D3)			
ＤＧ３	１０５１(D2)	０１７７(D5)		
・ ・ ・		・ ・ ・		
ＤＧＭ	４０８３(D4)	０３２３(D6)	・・・	９０２３(D1)

追加デバイス：２５４６(D9)
削除デバイス：０３２３(D6)

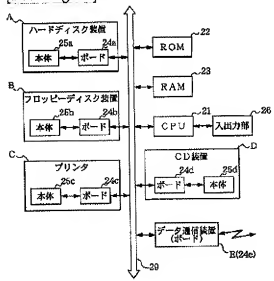
[Drawing 12]



[Drawing 11]



[Drawing 13]



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